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Subject: Savannah River Below Augusta (SRBA) Updated Charrette Slides
Attachments: 20190318 - SRBA - Updated Charrette Slides.pptx; 20190318 - SRBA Charrette Sign-In.pdf

All:

Attached are updated slides and the sign-in list from the Savannah River Below Augusta (SRBA) Ecosystem Restoration study planning charrette held yesterday (18 Mar 19). Please take the time to review the slides and send me any additional thoughts, edits, or comments by Friday (22 Mar 19). Please make comments/changes in RED on the slides so they will stand out.

Thank you to all for your interest and participation in this study. We look forward to receiving your feedback.

J. Sterling Acree
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SAVANNAH RIVER BELOW AUGUSTA ECOSYSTEM RESTORATION STUDY

Planning Charrette

18 Mar 2019

Notes/changes during
charrette are in blue.

Please make
edits/additions in red.

"The views, opinions and findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."



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AGENDA

OPENING

- Agenda Review
- Introductions & Charrette Process
- Planning Process
- Study Overview & Authorization

DISCUSSION

- Scope
- Problems & Opportunities
- Existing & Future Without Project Conditions
- Objectives and Constraints



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INTRODUCTIONS



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CHARRETTE PROCESS



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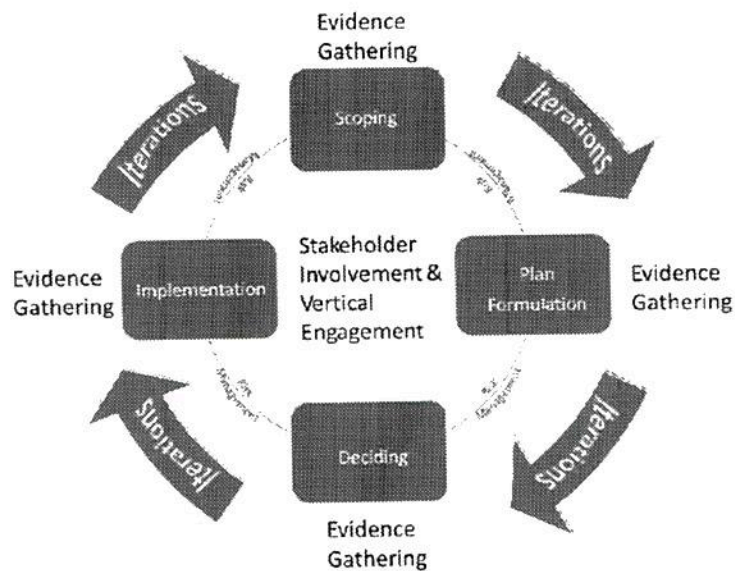
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FEASIBILITY STUDY PROCESS



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PLANNING PROCESS IS ITERATIVE



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STUDY OVERVIEW

Study Sponsor: Savannah River Keeper

Schedule (major milestones):

Event	Date
FCSA Executed	1 Aug 2016
Study Resumed	15 Feb 2019
Planning Charrette	18 Mar 2019
Alternatives Milestone Meeting	22 May 2019
Tentatively Selected Plan	Jan 2020
Draft Feasibility Released	Mar 2020
Public Review/Responses	Apr 2020
Agency Decision Milestone	Aug 2020
Final Report	Nov 2020
Signed Chief's Report	May 2021

Estimated Cost: \$3 million



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AUTHORIZATION

August 1, 1990 by the U.S. House of Representatives Committee on Public Works and Transportation:

[USACE] is requested to...determin[e] any *modifications should be made to cutoffs or other structures* considered as part of the *Savannah River Below Augusta Navigational Project*. Alternatives for modifying existing structures or cutoffs shall be determined in consideration of *recreation, navigation, loss of fish and wildlife resources, water quality and supply, wetlands*, other current and foreseeable *environmental problems*, and loss of *environmental amenities* along the project.

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AUTHORIZATION

WRDA 2016

SEC. 1201. AUTHORIZATION OF PROPOSED FEASIBILITY STUDIES.

The Secretary is authorized to conduct a feasibility study for the following projects for water resources development and conservation and other purposes, as identified in the reports titled "Report to Congress on Future Water Resources Development" submitted to Congress on January 29, 2015, and January 29, 2016, respectively, pursuant to section 7001 of the Water Resources Reform and Development Act of 2014 (33 U.S.C.2282d) or otherwise reviewed by Congress:

(29) Savannah river below Augusta, Georgia.—Project for ecosystem restoration, water supply, recreation, and flood control, Savannah River below Augusta, Georgia.



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AUTHORIZATION

2016 Report to Congress on Future Water Resources Development:

Purpose: Request to *re-evaluate the existing Savannah River Below Augusta Navigation Project*, Georgia to consider other federal project purposes than commercial navigation. Prior maintenance for commercial navigation resulted in loss of river sinuosity. With no regular commercial navigation remaining, project modifications will be considered to *restore habitat connectivity* to cutoff oxbow meander river segments for *ecosystem restoration and flood risk management*.

Benefits: This study will evaluate the potential for increased *wildlife habitat*, increased *recreational fishing* opportunities, *flood risk management* opportunities, an evaluation on *decreased sediment transport* to the Savannah Harbor, and evaluation of potential benefits for *increased water supply* to the river during drought conditions.

Total Estimated Costs: \$3,000,000

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INCORPORATION OF ADDITIONAL AUTHORIZATION

In regards to the multiple authorizations, the Jan 2017 Division Alternatives Milestone Meeting response referenced the District Alternatives Milestone Meeting memorandum which included the following statement:

"The District ***may proceed under the 1990 authorization*** but should ***review the 2016 study authorization*** and assess whether it provides *any additional desirable authority*. The study report should address whether its recommendation also fulfills the 2016 study authorization."



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COMBINED AUTHORITIES

Consider modifications to SRBA Navigation Project to restore cutoff oxbow meander river segments for the following:

- Recreation
- Navigation
- Fish & Wildlife
- Water Quality
- Water Supply
- Wetlands
- Recreational Fishing
- Sediment Transportation
- Environmental Problems
- Environmental Amenities
- Habitat Restoration
- Ecosystem Restoration
- Flood Risk Management
- Wildlife Habitat

Assumptions:

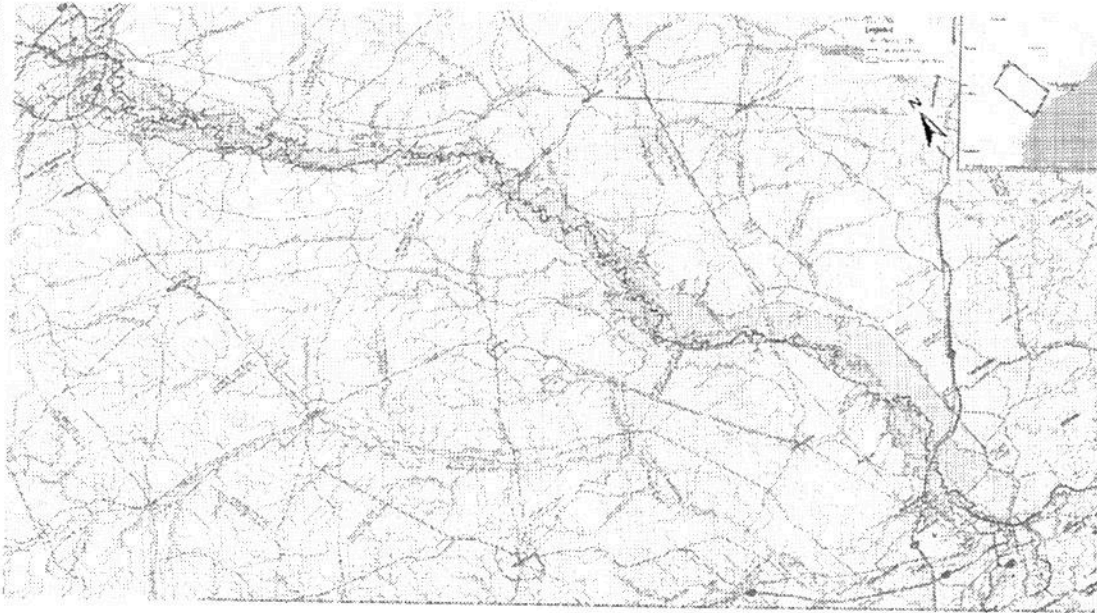
- Authority only allows for restoration of cutoff oxbow meander river segments which were disconnected from the river by manmade navigational cutoffs
- Modifications to "other structures" can consider river training wall/structures
- Must at least address all authorized purposes in study report



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SRBA STUDY AREA

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SRBA NAVIGATIONAL CUTOFFS

CUT #	CUT AND BEND NAME	RIVER MILE	YEAR CONSTRUCTED	CUT #	CUT AND BEND NAME	RIVER MILE	YEAR CONSTRUCTED
--	Fritz Cut	183.5	Private-1889	--	Miller's Old Lake	100.2	Natural Cutoff
--	Bailey's Cut	181.9	Private-1921	14	Whirligig Point	99.9	1960-61
24	Beckum's Cut	181.5	1959	13	Pfiffers Landing	93.8	1960-61
23	Lower Silver Bluff Landing	173.3	1959	12	Thompsons Cow Fold Point	92.8	1960-61
22	Gray's Landing	169.5	1959	11	Mosquito Camp Point	88.8	1960-61
21A	Eagle Point	168.0	1976	10	Poor Robin Upper Cut	87.1	1960-61
21	Cox Point	153.2	1959	9A	Poor Robin Lower Cut	85.4	1960-61
20	Gunningham Point	137.5	1959	9	Ware Crock Cut	85.2	1960-61
19C	Sweetwater Crock Cut	136.5	1976	8C	Blanket Point	81.0	1976
19B	Catfish Hole Point	136.0	1959	8B	Wildcat Cut	78.6	1976
19A	Devil's Elbow	135.5	1959	--	Duck Cut	65.0	Natural?
19	Swift Cut	135.3	1959	8	Hog Nose Point	62.3	1960-61
--	Little Hell Landing	134.5	Natural Cutoff	7A	McKenzie's Camp	59.7	1960-61
18B	Little Randall Point	128.5	1960-61	7	Bowl Maker Point	51.4	1962
18A	Fat Meat Point	120.8	1960-61	6	Big Keiffer Point	43.2	1962
18	Green Log Point	112.4	1960-61	5	Bay Bush Point	41.6	1962
17	Dick's Lookout Point	107.0	1960-61	4	Flat Ditch Point	41.3	1962
16	Cook's Field Point	102.8	1960-61	3	Hickory Bend	40.9	1962
15A	Wildcat Point	102.2	1960-61	2	Pine Tree Camp Point	37.2	1962
15	Seven-day Baptist Point	101.1	1960-61	1	Moody Cut	31.4	1962

There may be additional manmade navigational cutoffs that should be considered, such as King's Creek at hwy 301.



OPEN DISCUSSION



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SCOPE STATEMENT

The study will consider modifications to the Savannah River Below Augusta Navigation Project to restore habitat connectivity to cutoff ~~oxbow~~ meander river segments for ecosystem restoration.

We are defining "oxbows" as naturally cut off river meander segments. This study will only look at manmade cutoff meander river segments and not naturally occurring ones.

Three categories of locations we can modify for the authorized considerations:

- 1) Manmade cutoffs
- 2) Manmade cutoff meander segments
- 3) Other structures created for the purpose of navigation



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PROBLEMS

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Problems:

Modifications for commercial navigation
had the following negative effects:

- Reduction of fish and wildlife habitat
- Loss of type and function of wetlands
- Loss of tupelo wetlands
- Modified flood risk
- Decreased water quality
- Increase water velocity
- Decrease in water quality
- Increased heavy metals in cutoff river segments
- Increased stream bank erosion
- Any commercial impacts?



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OPPORTUNITIES

Opportunities:

Modifications could improve the following:

- Increase wetlands/flood plains
- Increase spawning habitat
- Increase recreational opportunities
- Increase other habitat
- Reduce flood risk
- Reduce sediment load
- Increase river carrying capacity
- Public safety (healthiness of fish to eat)
- ~~Restoration of river to more natural state~~
- Fishery restoration
- Restoration of meanders
- Increased bank storage with increased river length
- Ecosystem restoration
- Increase mussel habitat
- Decrease river velocity (increase the time for egg transportation to the harbor/salt water)
- Increase overbank flooding
- Increase wildlife habitat
- Increase vegetation and plant habitat
- Increase residence habitat for the Robust Redhorse
- Increase gravel bar area (spawning)
- Increase dissolved oxygen
- Increase commercial fishing opportunities?
- Healthier sustenance fishing near areas that are easily accessible
- Increase surface water to ground water connectivity



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ENVIRONMENTAL COORDINATION

- Project Kick-off meeting was held on 26 Feb 2019 where participants from USFWS, NOAA/NMFS, TNC, GADNR, SCDHEC, SCDNR attended.
- Official scoping letters will be provided to the state and federal resource agencies as well as the general public on the project between the week of 25 Mar 2019.
- Cooperating Agency Requests will be send to the state and federal agencies between the week of 25 Mar 2019.
- USACE Savannah District will be working with USFWS to begin the FWCAR coordination process.
- USACE Savannah District biologist will continue to work with the resource agencies to compile information to begin the existing conditions section of the draft report.



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CURRENT CONDITIONS

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Current Conditions:

- No commercial navigation
- Recreation
- Habitat types?
- Fisheries?
- Limited agriculture use
- Limited residential areas
- Agricultural trees?
- Other land uses (need data)
- 25% in conservation easements (mostly in SC)
- Robust Redhorse populations heaviest in only some sections of river
- Sturgeon lifecycle habitats are well known
- Diverse habitat due to the cutoff meanders
- Municipal water use for Savannah and Beaufort



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FUTURE CONDITIONS

Future Without Project Conditions:

- Further disconnection of cutoff oxbow meander river segments
- Reduced spawning habitat
- NSBLD remains as is and continues to be operated to maintain upstream pool height will be as described in the current recommended plan
- Large scale agricultural (mostly in uplands)
- Climate change? Rainfall data
- Continued conversion of habitat type
- Increased heavy metal concentration



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OBJECTIVES AND CONSTRAINTS

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Objectives:

- Strengthen ecosystem resilience and sustainability by:
- Increase fish and wildlife habitat for juvenile species
- Increase habitat for short nose and Atlantic sturgeon, striped bass, and large mouth bass
- Increase water supply to the river during drought conditions
- Improve water quality in the Savannah Harbor
- Maintain recreational navigation on the Savannah River of at least 3 feet of depth
- Increase wetlands
- Increase recreational fishing

Constraints:

- Do not impact water intakes to the Savannah River Site or Vogtle Electric Generating Plant
- No long term degradation of sturgeon habitat



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DATA/INFORMATION NEEDS

- River cross sections (Tonya?)
- Water quality data (Dr. Oscar Flite report?)
- Bathymetry of cutoff meanders
- Worsening condition confirmation
- Navigational cutoffs reduced wildlife habitat (FWS study?)
- National and regional significance (LCC?)
- Old maps – USACE likely has in files (Dale identified all cuts...Tonya)
- Robust Redhorse spawning locations (immediately below NSBLD and km 283 – Bill Wikoff)
- USGS gage for discharge levels – include documentation
- NOAA charts for river miles – Vince
- Aquifer recharge areas – SC statewide model under development, check with USGS



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DATA/INFORMATION NEEDS CONTINUED

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- Mussel data – Eric Krueger
 - Savannah River Ecology Lab (SREL) for data around Savannah River Site
 - Phinizy center may have data
 - Water quality models – SCDHEC & Liz Booth with GDNR
 - Ecosystem functions model – EFTC? TNC? Eric Krueger
 - Lidar – SCDNR
 - Savannah River Basin Comp Study – USACE
 - Invertebrate data – SCDHEC, Watershed Atlas online
 - Recreational data? – may need to reach out to angler groups, kayaking groups, county data, Creel surveys
 - SC SWAP List online for species
 - Real estate – conservation agreements?
- NOTE: data from the two states may not always interact together well



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METRICS

- Potential restored meander miles
- Rewatering opportunity
- Flow
- Distance from river access/necessary amount of fill removal
- Cutoff meander distance from river (each end)
- Critical species
- Reconnection simplicity
- Property ownership
- Urban flood risk
- Proximity to other cutoff segments
- Wetland restoration potential
- Mussel count (more mussels would increase cost?)
- Dissolved oxygen
- Total suspended solids
- Water temperature
- Seasonal organic material
- Respiration rates (higher upstream)



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RISKS

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- Hazard, Toxic, Radioactive, Waste (HTRW) Issues – heavy metals in cutoff meander river segments
- ~~Water quality model~~
- ~~NSBLD in-as-is condition~~
- Land conservation projects w/o consideration of river restoration
- Impacts to existing boat ramps
- Cultural/historical sites – old boat wrecks, rail lines along cutoffs
- Constructability
- Access
- Public resistance
- Location of other HTRW
- Geomorphology – new sediment transportation/new erosion
- New sediment impacts to existing plants/mussels as the material drops out
- DO changes
- Increased hazard from old training structures/rip rap
- Decrease migratory bird habitat (using the plugs cutting off the river segments)
- Highway bridge impacts
- Need to deauthorize
- Reduction of water velocity impacts to salt water wedge
- Impacts to sedimentation in harbor
- Potential disposition study
- What is in the cutoff river meanders that will be released into the river



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SPECIES

- Robust Redhorse
- Atlantic Sturgeon
- Short Nose Sturgeon
- Savannah Liliput Mussel
- Altamaha Arcmussel
- Barrel Floater Mussel
- Swallow Tailed Kite
- Wood Stork
- Striper
- Shad
- Largemouth bass
- Plants?
- Water fowl
- Peregrine falcon
- Game fish?



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PARKING LOT

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- Are the cutoff meander river segments under USACE jurisdiction?
- Upstream reservoirs have reduced the amount of organic material that would naturally occur in the river and has therefore limited the available nutrients at the lowest level of the food chain. Restoration of cutoff river segments would increase the amount of organic material.
- Monitoring metric: Robust Redhorse fish count
- Mussels are primarily at the mouths of the cutoffs
- Mussels are primarily concentrated in only a few of the cutoff river segments and not necessarily all of them (per last count)
- Emphasis on heavy metal handling and potential hazards of reconnection
- Conservation agreements may limit restoration efforts
- Western Capacity use determining process
- "Navigation" is used as an opportunity and is political concern
- Limited public access
- Look at need to deauthorize navigation based on settlement agreement
- Structures: training walls/structures, rip rap
- Some species have residence in slack water of cutoff river segments
- Many opportunities to show that this is work of value



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PARKING LOT CONTINUED

- One of the few rivers that harbors the Robust Redhorse – only two known spawning areas in the SRBA, may have others upstream of NSBLD



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CLOSING

- Meeting Accomplishments
- Action Items
- Next Steps:

Event	Date
Planning Charrette	18 Mar 2019
Send Updated Charrette Slides to All	19 Mar 2019
Receive Charrette Feedback	22 Mar 2019
Charrette Memorandum For Record	29 Mar 2019
Alternatives Formulated	17 Apr 2019
Alternatives Milestone Meeting	22 May 2019



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SLIDES FOR ADDITIONAL INFORMATION



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POTENTIAL MEASURES

- Pilot channels
- Plug cutoff
- Dredging
- Diversion structure



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Savannah District

Event: Savannah River Below Augusta (SRBA) Ecosystem Restoration Study - Planning Charrette

Date: 18 March 2019

#3

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19. STEWING ADER	USACE PM	912-652-5860	

Others in attendance: Rusty Wenerick (SCDHEC), Sica Collins (SavRvkpr), Dave Mewborn (SavRvkpr), and Susan Durden (USACE)

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Message

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Subject: SRBA Charrette Agenda and Slides
Attachments: 20190318 - SRBA - Charrette.pptx; 20190318 - SRBA Charrette Agenda.doc

All:

Attached is the agenda and slides for Monday's Savannah River Below Augusta (SRBA) Ecosystem Restoration Study Planning Charrette. Please feel free to send me comments or ask questions prior to the charrette, especially if you will be unable to participate in-person. The slides will be updated and resent following the charrette and we will ask for comments and questions again at that point.

Thank you all for your interest in this study.

J. Sterling Acree
 Project Manager, USACE
 Civil Works Programs & Project Management
 O: 912-652-5860
 C: 912-438-7900

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SAVANNAH RIVER BELOW AUGUSTA ECOSYSTEM RESTORATION STUDY

Planning Charrette

18 Mar 2019

"The views, opinions and findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."



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AGENDA

OPENING

- Agenda Review
- Introductions & Charrette Process
- Planning Process
- Study Overview & Authorization

DISCUSSION

- Scope
- Problems & Opportunities
- Existing & Future Without Project Conditions
- Objectives and Constraints



INTRODUCTIONS



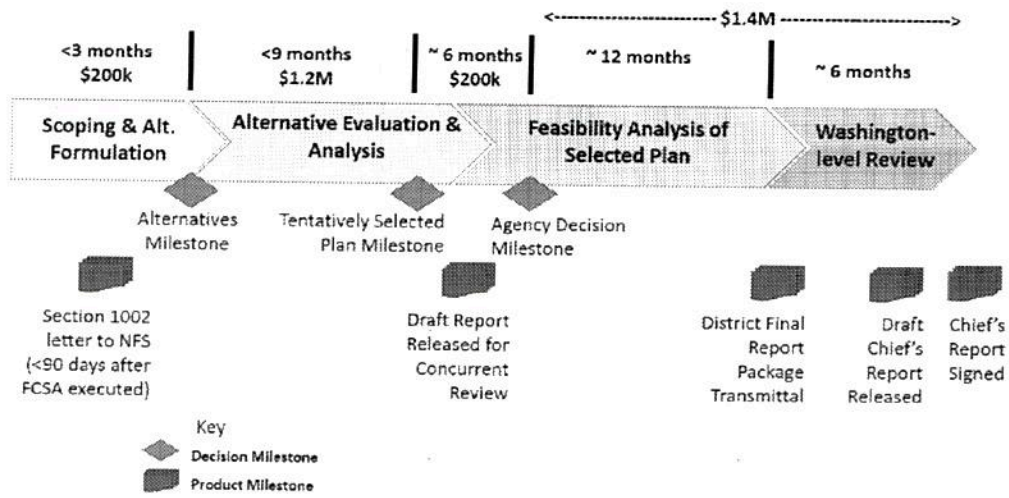
CHARRETTE PROCESS



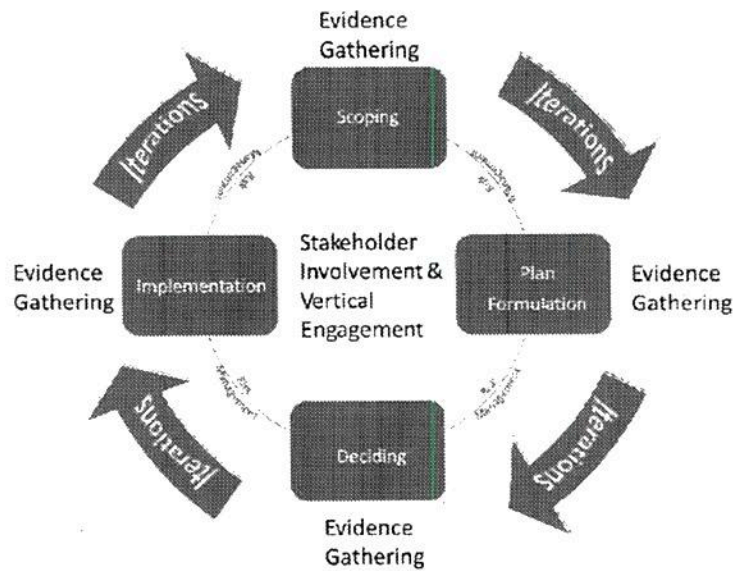
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FEASIBILITY STUDY PROCESS



PLANNING PROCESS IS ITERATIVE



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STUDY OVERVIEW

Study Sponsor: Savannah River Keeper

Schedule (major milestones):

Event	Date
FCSA Executed	1 Aug 2016
Study Resumed	15 Feb 2019
Planning Charrette	18 Mar 2019
Alternatives Milestone Meeting	22 May 2019
Tentatively Selected Plan	Jan 2020
Draft Feasibility Released	Mar 2020
Public Review/Responses	Apr 2020
Agency Decision Milestone	Aug 2020
Final Report	Nov 2020
Signed Chief's Report	May 2021

Estimated Cost: \$3 million



AUTHORIZATION

August 1, 1990 by the U.S. House of Representatives Committee on Public Works and Transportation:

[USACE] is requested to...determin[e] any *modifications should be made to cutoffs or other structures* considered as part of the *Savannah River Below Augusta Navigational Project*. Alternatives for modifying existing structures or cutoffs shall be determined in consideration of *recreation, navigation, loss of fish and wildlife resources, water quality and supply, wetlands, other current and foreseeable environmental problems, and loss of environmental amenities* along the project.

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AUTHORIZATION

WRDA 2016

SEC. 1201. AUTHORIZATION OF PROPOSED FEASIBILITY STUDIES.

The Secretary is authorized to conduct a feasibility study for the following projects for water resources development and conservation and other purposes, as identified in the reports titled "Report to Congress on Future Water Resources Development" submitted to Congress on January 29, 2015, and January 29, 2016, respectively, pursuant to section 7001 of the Water Resources Reform and Development Act of 2014 (33 U.S.C.2282d) or otherwise reviewed by Congress:

(29) Savannah river below Augusta, Georgia.—Project for ecosystem restoration, water supply, recreation, and flood control, Savannah River below Augusta, Georgia.



AUTHORIZATION

2016 Report to Congress on Future Water Resources Development:

Purpose: Request to *re-evaluate the existing Savannah River Below Augusta Navigation Project*, Georgia to consider other federal project purposes than commercial navigation. Prior maintenance for commercial navigation resulted in loss of river sinuosity. With no regular commercial navigation remaining, project modifications will be considered to *restore habitat connectivity* to cutoff oxbow meander river segments for *ecosystem restoration* and *flood risk management*.

Benefits: This study will evaluate the potential for increased *wildlife habitat*, increased *recreational fishing* opportunities, *flood risk management* opportunities, an evaluation on *decreased sediment transport* to the Savannah Harbor, and evaluation of potential benefits for *increased water supply* to the river during drought conditions.

Total Estimated Costs: \$3,000,000

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INCORPORATION OF ADDITIONAL AUTHORIZATION

In regards to the multiple authorizations, the Jan 2017 Division Alternatives Milestone Meeting response referenced the District Alternatives Milestone Meeting memorandum which included the following statement:

"The District ***may proceed under the 1990 authorization*** but should ***review the 2016 study authorization*** and assess whether it provides ***any additional desirable authority***. The study report should address whether its recommendation also fulfills the 2016 study authorization."



COMBINED AUTHORITIES

Consider modifications to SRBA Navigation Project to restore cutoff oxbow meander river segments for the following:

- Recreation
- Navigation
- Fish & Wildlife
- Water Quality
- Water Supply
- Wetlands
- Recreational Fishing
- Sediment Transportation
- Environmental Problems
- Environmental Amenities
- Habitat Restoration
- Ecosystem Restoration
- Flood Risk Management
- Wildlife Habitat

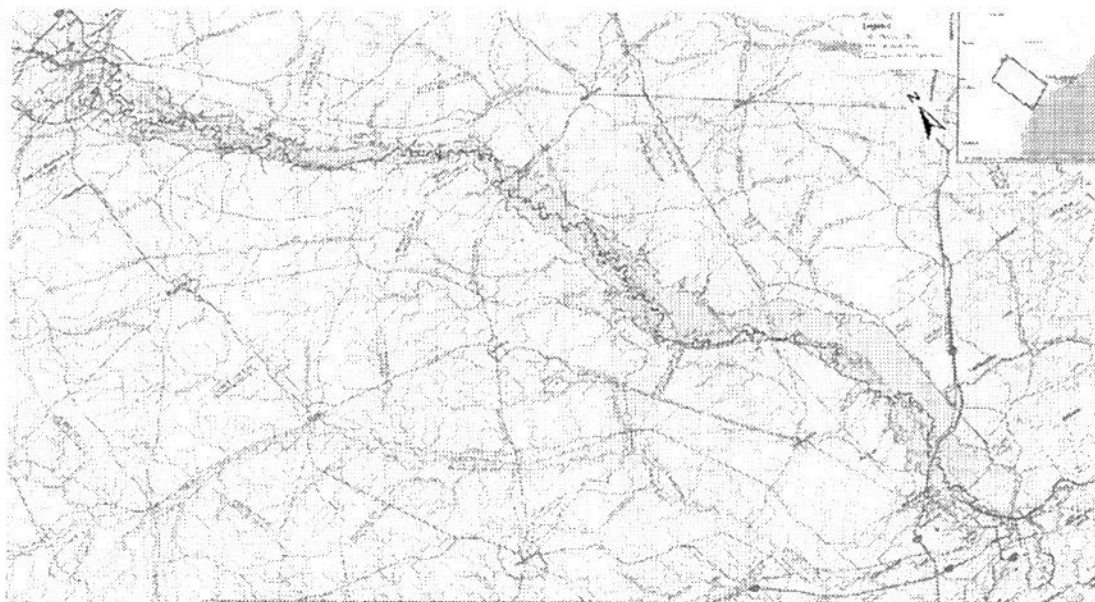
Assumptions:

- Authority only allows for restoration of cutoff oxbow meander river segments which were disconnected from the river by manmade navigational cutoffs
- Modifications to "other structures" can consider river training wall/structures
- Must at least address all authorized purposes in study report



SRBA STUDY AREA

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SRBA NAVIGATIONAL CUTOFFS

CUT #	CUT AND BEND NAME	RIVER MILE	YEAR CONSTRUCTED	CUT #	CUT AND BEND NAME	RIVER MILE	YEAR CONSTRUCTED
--	Fritz Cut	183.5	Private-1889	--	Miller's Old Lake	100.2	Natural Cutoff
--	Bailey's Cut	181.9	Private-1921	14	Whirligig Point	99.9	1960-61
24	Beckum's Cut	181.5	1959	13	Pfeiffers Landing	93.8	1960-61
23	Lower Silver Bluff Landing	173.3	1959	12	Thompsons Cow Field Point	92.8	1960-61
22	Gray's Landing	169.5	1959	11	Mosquito Camp Point	88.8	1960-61
21A	Eagle Point	168.0	1976	10	Poor Robin Upper Cut	87.1	1960-61
21	Cox Point	153.2	1959	9A	Poor Robin Lower Cut	85.4	1960-61
20	Gunningham Point	137.5	1959	9	Ware Creek Cut	85.2	1960-61
19C	Sweetwater Creek Cut	136.5	1976	8C	Blanket Point	81.0	1976
19B	Catfish Hole Point	136.0	1959	8B	Wildcat Cut	78.6	1976
19A	Devil's Elbow	135.5	1959	--	Duck Cut	65.0	Natural?
19	Swift Cut	135.3	1959	8	Hog Nose Point	62.3	1960-61
--	Little Hell Landing	134.5	Natural Cutoff	7A	McKenzie's Camp	59.7	1960-61
18B	Little Randall Point	128.5	1960-61	7	Bowl Maker Point	51.4	1962
18A	Fat Meat Point	120.8	1960-61	6	Big Keiffer Point	43.2	1962
18	Green Log Point	112.4	1960-61	5	Bay Bush Point	41.6	1962
17	Dick's Lookout Point	107.0	1960-61	4	Flat Ditch Point	41.3	1962
16	Cook's Field Point	102.8	1960-61	3	Hickory Bend	40.9	1962
15A	Wildcat Point	102.2	1960-61	2	Pine Tree Camp Point	37.2	1962
15	Seven-day Baptist Point	101.1	1960-61	1	Moody Cut	31.4	1962



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OPEN DISCUSSION



SCOPE STATEMENT

The study will consider modifications to the Savannah River Below Augusta Navigation Project to restore habitat connectivity to cutoff oxbow meander river segments for ecosystem restoration.



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PROBLEMS AND OPPORTUNITIES

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Problems:

Modifications for commercial navigation
had the following negative effects:

- Reduction of fish and wildlife habitat
- Loss of wetlands
- Increased flood risk
- Decreased water quality
- Increase water velocity

Opportunities:

Modifications could improve the following:

- Increase wetlands/flood plains
- Increase spawning habitat
- Increase recreational opportunities
- Increase other habitat
- Reduce flood risk
- Reduce sediment load
- Increase river carrying capacity
- Public safety (healthiness of fish to eat)
- Restoration of river to more natural state



LUNCH



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ENVIRONMENTAL COORDINATION

- Project Kick-off meeting was held on 26 Feb 2019 where participants from USFWS, NOAA/NMFS, TNC, GADNR, SCDHEC, SCDNR attended.
- Official scoping letters will be provided to the state and federal resource agencies as well as the general public on the project between the week of 25 Mar 2019.
- Cooperating Agency Requests will be send to the state and federal agencies between the week of 25 Mar 2019.
- USACE Savannah District will be working with USFWS to begin the FWCAR coordination process.
- USACE Savannah District biologist will continue to work with the resource agencies to compile information to begin the existing conditions section of the draft report.



CURRENT AND FUTURE CONDITIONS

Current Conditions:

- No commercial navigation
- Recreation
- Habitat types?
- Fisheries?

Future Without Project Conditions:

- Further disconnection of cutoff oxbow meander river segments
- Reduced spawning habitat
- NSBLD remains as-is and continues to be operated to maintain upstream pool height



OBJECTIVES AND CONSTRAINTS

Objectives:

- Increase fish and wildlife habitat for juvenile species
- Increase habitat for short nose and Atlantic sturgeon, striped bass, and large mouth bass
- Increase water supply to the river during drought conditions
- Improve water quality in the Savannah Harbor
- Maintain recreational navigation on the Savannah River of at least 3 feet of depth
- Increase wetlands
- Increase recreational fishing

Constraints:

- Do not impact water intakes to the Savannah River Site or Vogtle Electric Generating Plant
- No long term degradation of sturgeon habitat



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CLOSING

- Meeting Accomplishments
- Action Items
- Next Steps:

Event	Date
Planning Charrette	18 Mar 2019
Send Updated Charrette Slides to All	19 Mar 2019
Receive Charrette Feedback	22 Mar 2019
Charrette Memorandum For Record	29 Mar 2019
Alternatives Formulated	17 Apr 2019
Alternatives Milestone Meeting	22 May 2019



SLIDES FOR ADDITIONAL INFORMATION



DATA/INFORMATION NEEDS

- River cross sections (Tonya?)
- Water quality data (Dr. Oscar Flite report?)
- Bathymetry of cutoff meanders
- Worsening condition confirmation
- Navigational cutoffs reduced wildlife habitat (FWS study?)
- National and regional significance (LCC?)



RISKS

- Hazard, Toxic, Radioactive, Waste (HTRW) Issues – heavy metals in cutoff meander river segments
- Water quality model
- NSBLD in as-is condition
- Land conservation projects w/o consideration of river restoration



POTENTIAL MEASURES

- Pilot channels
- Plug cutoff
- Dredging
- Diversion structure



LOCATION METRICS

- Potential restored meander miles
- Flow
- Distance from river access
- Cutoff meander distance from river (each end)
- Critical species
- Reconnection simplicity
- Property ownership
- Urban flood risk
- Proximity to other cutoff segments
- Wetland restoration potential



PARKING LOT

- Are the cutoff meander river segments under USACE jurisdiction?



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#6

Savannah River Below Augusta Ecosystem Restoration Study Charrette Meeting Agenda

Monday, March 18, 2019

9:00am to 4:00pm

Meeting Location: Lower Savannah River Alliance Education Center, 12049 Burtons Ferry Hwy, Allendale, SC 29810

Call-In Number: Face to Face only. No call in information for this meeting.

Meeting Facilitator: Susan Durden	
9:00am – 9:15am	Opening Remarks and Review of Agenda (Sterling Acree, USACE and Tonya Bonitatibus, Savannah Riverkeeper) <u><i>Desired Outcome:</i></u> <i>Achieve initial scoping and develop lists of current and future without project conditions, problems, opportunities, objectives, and constraints. Identify sources of data.</i>
9:15am – 9:30am	Introductions and Charrette Process (Susan Durden, USACE) <u><i>Desired Outcome:</i></u> <i>Get to know each other and understand the charrette process</i>
9:30am – 10:30am	Planning Process and Study Overview (Steve Fischer, USACE and Sterling Acree, USACE) <u><i>Desired Outcome:</i></u> <i>Describe the USACE planning process and specific information regarding this study</i>
10:30am – 11:00am	Study Scope (All participants) <u><i>Desired Outcome:</i></u> <i>Define the scope of this study</i>
11:00am - 12:00pm	Problems and Opportunities (All participants) <u><i>Desired Outcome:</i></u> <i>List problems and opportunities</i>
12:00pm – 12:30pm	Working Lunch – Overview of Environmental and Cultural Resource Coordination for Study (Nathan Dayan, USACE) <u><i>Desired Outcome:</i></u> <i>Overview of process and discussion of needed coordination</i>
12:30pm – 1:30pm	Current and Future Without Project Conditions (All participants) <u><i>Desired Outcome:</i></u> <i>Common assumptions of most likely future, greatest risk factors</i>
2:30pm – 3:30pm	Objectives and Constraints (All participants) <u><i>Desired Outcome:</i></u> <i>List objectives and constraints</i>
3:30pm – 4:00pm	Closing Comments and Next Steps (Sterling Acree) <u><i>Desired Outcome:</i></u> <i>Overview of meeting accomplishments, list action items, next meeting</i>
4:00 pm	ADJOURN

